see also Trigeminal nerve.

The trigeminal root is a remarkable structure that can be an original site of trigeminal neuralgia. However, few studies have explored the detailed anatomy of it with neuroimages. The aim of the present study was to characterize the trigeminal root using magnetic resonance (MR) imaging.

METHODS: Thin-sliced, axial T2-weighted imaging and coronal constructive interference in steady-state (CISS) sequence were performed for a total of 167 patients.

RESULTS: On axial T2-weighted imaging, three divisions of the main trigeminal sensory root were unequivocally delineated in 36% of the 95 patients. Sixty-three percent of the Meckel's cave was bilaterally adjacent to the petrous portion of the internal carotid artery. On CISS sequence, course of the main trigeminal sensory root was well delineated in all of the 72 patients. The accessory sensory and motor rootlets were identified in 38% and 56% of 144 sides, respectively. Levels of the main trigeminal roots at the original site and entrance into the Meckel's as well morphology of the original segment of the main trigeminal sensory root were variable. Furthermore, in 24% of sides, three divisions of the main trigeminal sensory root were clearly delineated, arranged in variable manners. In 20% sides, segments of the superior cerebellar artery had a contact with the main trigeminal sensory root and motor rootlets.

Coronal CISS sequence is useful for delineating the trigeminal root. Anatomy of the trigeminal root presents considerable inter- and intra-individual variability that can influence the symptoms of trigeminal neurovascular compression [1].

1)
Tsutsumi S, Ono H, Yasumoto Y, Ishii H. The trigeminal root: an anatomical study using magnetic resonance imaging. Surg Radiol Anat. 2018 Sep 14. doi: 10.1007/s00276-018-2106-1. [Epub ahead of print] PubMed PMID: 30218149.